

WHAT IS CLAIMED IS:

5 1. A semiconductor device comprising;
an analog buffer comprising at least one thin film transistor; and
a channel region of the thin film transistor, the channel region comprising a polycrystalline semiconductor layer,
wherein a gate length of the thin film transistor is 7 μm or longer.

10 2. A semiconductor device according to claim 1, wherein the device is selected from the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.

15 3. A semiconductor device comprising;
an analog buffer comprising at least one thin film transistor; and
a channel region of the thin film transistor, the channel region comprising a polycrystalline semiconductor layer,
wherein a gate width of the thin film transistor is 50 μm or longer.

20 4. A semiconductor device according to claim 3, wherein the device is selected from the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.

30 5. A semiconductor device comprising;
an analog buffer comprising at least one thin film transistor; and
a channel region of the thin film transistor, the channel region comprising a polycrystalline semiconductor layer,
wherein a gate length of the thin film transistor is 7 μm or longer and a gate width of the thin film transistor is 50 μm or longer.

6. A semiconductor device according to claim 5, wherein the device is selected from

the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.

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7. A semiconductor device comprising;
an analog buffer comprising at least one thin film transistor; and
a channel region of the thin film transistor, the channel region comprising a polycrystalline semiconductor layer,
10 wherein the thin film transistor is a multi-gate type.

8. A semiconductor device according to claim 7, wherein the device is selected from the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound
15 reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.

9. A semiconductor device comprising;
an analog buffer comprising at least one multi-gate type thin film transistor; and
20 a channel region of the thin film transistor, the channel region comprising a polycrystalline semiconductor layer,
wherein a gate length of the thin film transistor is 7 μm or longer.

10. A semiconductor device according to claim 9, wherein the device is selected from
25 the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.

30 11. A semiconductor device comprising;
an analog buffer comprising at least one multi-gate type thin film transistor; and
a channel region of the thin film transistor, the channel region comprising a polycrystalline semiconductor layer,
wherein a gate width of the thin film transistor is 50 μm or longer.

12. A semiconductor device according to claim 11, wherein the device is selected from the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.

13. A semiconductor device comprising:
an analog buffer comprising at least one multi-gate type thin film transistor; and
a channel region of the thin film transistor, the channel region comprising a polycrystalline semiconductor layer,
wherein a gate length of the thin film transistor is 7 μm or longer and a gate width of the thin film transistor is 50 μm or longer.

14. A semiconductor device according to claim 13, wherein the device is selected from the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.

15. A semiconductor device comprising:
an analog buffer comprising at least one of a current mirror circuit and a differential circuit, the one of the current mirror circuit and the differential circuit comprising at least a first and second thin film transistors,

wherein each of the first and second thin film transistors has a channel region comprising a polycrystalline semiconductor layer,
wherein a gate length of each of the first and second thin film transistors is 7 μm or longer;

wherein the first and second thin film transistors are connected in parallel with each other; and

wherein a gate electrode of the first thin film transistor and a gate electrode of the second thin film transistor are connected to a same potential.

16. A semiconductor device according to claim 15, wherein a gate width of the

respective thin film transistors is 50 μm or longer.

17. A semiconductor device according to claim 15, wherein the respective thin film transistors is a multi-gate type.

18. A semiconductor device according to claim 15, wherein the respective thin film transistors is a multi-gate type and a gate width of the respective thin film transistors is 50 μm or longer.

19. A semiconductor device according to claim 15, wherein the device is selected from the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.

20. A semiconductor device comprising:
an analog buffer comprising at least one of a current mirror circuit and a differential circuit, the one of the current mirror circuit and the differential circuit comprising at least a first and second thin film transistors,

wherein each of the first and second thin film transistors has a channel region comprising a polycrystalline semiconductor layer,

wherein a gate width of each of the first and second thin film transistors is 50 μm or longer;

wherein the first and second thin film transistors are connected in parallel with each other; and

wherein a gate electrode of the first thin film transistor and a gate electrode of the second thin film transistor are connected to a same potential.

21. A semiconductor device according to claim 20, wherein the respective thin film transistors is multi-gate type.

22. A semiconductor device according to claim 20, wherein the device is selected from the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound

reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.

23. A semiconductor device comprising:

5 an analog buffer comprising at least one of a current mirror circuit and a differential circuit, the one of the current mirror circuit and the differential circuit comprising at least a first and second thin film transistors,

wherein each of the first and second thin film transistors has a channel region comprising a polycrystalline semiconductor layer,

10 wherein each of the first and second thin film transistors is multi-gate type

wherein the first and second thin film transistors are connected in parallel with each other; and

wherein a gate electrode of the first thin film transistor and a gate electrode of the second thin film transistor are connected to a same potential.

15 24. A semiconductor device according to claim 23, wherein the device is selected from the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound reproduction device, a note type personal computer, a game device, a portable information
20 terminal, an image playback device having a recording medium.

25. A semiconductor device comprising:

an analog buffer comprising at least one of a current mirror circuit and a differential circuit, the one of the current mirror circuit and the differential circuit comprising at least a
25 first and second thin film transistors,

wherein each of the first and second thin film transistors has a channel region comprising a polycrystalline semiconductor layer,

wherein a gate length of each of the first and second thin film transistors is 7 μm or longer;

30 wherein the first and second thin film transistors are connected in parallel with each other and located in a cross arrangement; and

wherein a gate electrode of the first thin film transistor and a gate electrode of the second thin film transistor are connected to a same potential.

26. A semiconductor device according to claim 25, wherein the device is selected from the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.

27. A semiconductor device comprising:

an analog buffer comprising a source follower comprising a plurality of thin film transistors; and

a channel region of the respective thin film transistors, comprising a polycrystalline semiconductor layer,

wherein the respective thin film transistors is a multi-gate type;

wherein a gate length of the respective thin film transistors is 7 μm or longer and a gate width of the respective thin film transistors is 50 μm or longer;

wherein the plurality of thin film transistors are connected in parallel with each other; and

wherein gate electrodes of the plurality of thin film transistors are connected to a same potential.

28. A semiconductor device according to claim 27, wherein the device is selected from the group consisting of a liquid crystal display, an EL display, a video camera, a digital camera, a projector, a projection TV, a goggle type display, a navigation system, a sound reproduction device, a note type personal computer, a game device, a portable information terminal, an image playback device having a recording medium.